

Increasing Fiber and Protein Contents of Baked Products Using Local Produce

Juma Novie A. Alviola*, Jessvella E. Banaybanay, and Czarina Patrice H. Mauleon

University of the Philippines Mindanao

*Correspondence

Department of Food Science and Chemistry,
College of Science and Mathematics,
University of the Philippines Mindanao, Mintal, Tugbok District,
Davao City 8022, Philippines

T +63 82 293 0302

E jaalviola@up.edu.ph

Keywords

- durian rind powder
- high fiber
- high protein
- mung bean flour

Abstract

Consumers are increasingly opting for healthier food products, and two current trends are high fiber and high protein options. Using locally available produce or their manufacturing by-products may lower ingredient cost when making these products. Durian rind, which is generally thrown away, comprises 60% of a durian fruit and has about 27% crude fiber. Mung bean has about 23% protein and is relatively inexpensive. In this study, durian rind was cleaned, dried, ground, and added to muffins while mung beans were oven-roasted, ground, and added to crackers. Quality and acceptability of the products were evaluated. Among the ratios tested, the most preferred formulation for muffins had 10% durian rind powder, while that of crackers had 50% mung bean flour. Consumer acceptability of the products was tested using a 9-point hedonic scale. The control and fiber-fortified muffins had similar mean consumer acceptability scores of 8 (liked highly) for color, texture, taste, and overall acceptability. Crackers with mung bean flour had significantly higher mean scores than the control (7.5–8.0 vs. 6.8–7.4) for appearance, texture, flavor, and overall acceptability. The fiber-fortified muffin had 6.26% crude fiber while the mung bean crackers had 9.98% crude protein. The addition of durian rind powder and mung bean flour to baked products may adversely affect some quality parameters like texture, but there are ways to lessen these effects. The improvement in nutrition profile of the products shows the market potential of durian rind powder and mung bean flour.